

Claims:

Claim 1-15 (cancelled)

Claim 16-27 (cancelled)

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28 (new). An Internet based wireless communication system, comprising:
one server means running on Internet,
a plurality of wireless Access Points (APs) with Internet connection and
providing wireless networking access,

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a plurality of Personal Mobile Access Device (PMAD) with wireless
networking capability for getting wireless Internet access via said AP,
and client operation function means corresponding with said server
means,

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Whereby the APs communicating with the server means via Internet,
Wherein said PMAD is personal mobile communication device with user
and media interfaces, and wireless networking means to
communicate with said APs,

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Whereby the PMAD access Internet wirelessly through the AP and
communicate with the server means via Internet,
Wherein the server means enables the PMADs to joint communication
over Internet connection with server means;

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Whereby the PMADs access Internet wirelessly through the APs and
joint the server means for communication among each other of the
PMADs,
Whereby the server means enables, controls, and guarantees the
PMAD to PMAD communication over Internet without message loss,
and

Whereby the PMADs communicating with each other via the server
means and Internet.

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29(new) The system of claim 28 wherein one of said PMAD can roam among the wireless access of said APs around Internet and communicate with said server means and other PMADs.

- 5 **30 (new).** An Internet based wireless communication system, comprising:
a Time Distributed Message Network (TDMN) including server means
connecting to Internet and TDMN operation function means;
a plurality of wireless Access Points (APs) with Internet connection and
providing wireless networking access;
10 a plurality of Personal Mobile Access Device (PMAD) with wireless
networking capability for getting wireless Internet access via said AP,
and client operation function means corresponding with said TDMN
operation function;
Whereby the APs communicating with the TDMN via Internet,
15 Wherein said PMAD is personal mobile communication device with user
and media interfaces, and wireless networking means to
communicate with said APs,
Wherein the TDMN operation function means enables the PMADs to
join the TDMN for communication over Internet connection;
20 Whereby the PMAD access Internet wirelessly through the AP and join
the TDMN for communication among each other of the PMADs over
Internet,
Whereby the TDMN and the APs providing communication among the
PMADs over Internet, and
25 Whereby the TDMN enables, controls, and guarantees the PMAD to
PMAD communication over Internet without message lost.

31(new) The system of claim 30 wherein said PMAD is performing time distributed two-way message communication by sending a complete

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source of voice, video and/or other file or message into a group of message units over Internet to the TDMN, and, said TDMN guarantees said a group of message units to be completely received at receiving PMAD:

5 whereby said TDMN stores the undelivered message units when there is interruption of Internet connection of receiving PAMD, and whereby said TDMN continues delivering said undelivered message when the interrupted communication of said receiving PMAD to said TDMN recovers.

10 32(new) The system of claim 30 wherein said TDMN manages the communication of said PMADs with different quality of service level.

33(new) The system of claim 30 wherein said TDMN has server means forming three-level hierarchical domain system for managing communication, comprising:

15 a host domain, a control domain and an access domain, wherein access domain is the bottom level of said hierarchical domain system, said access domain comprising a plurality of Access Server means and one Control Server means managing said Access Server means,

20 wherein control domain is the second level of said hierarchical domain system, said control domain comprising a plurality of said Control Server means and one Node Server means managing said Control Server means, and

25 wherein host domain is the core of said TDMN, comprising a plurality of said Node Server means and one Host Server means managing said Node Server means.

34 (new) The system of claim 30, wherein said a plurality of PMADs can perform group communication.

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35(new) The system of claim 30 wherein one of said PMAD can roam among the wireless access of said APs around Internet and communicate with said server means and other PMADs

- 5 **36 (new).** An Internet based wireless communication system, comprising:
a Time Distributed Message Network (TDMN) including server means
connecting to Internet and TDMN operation function means;
a plurality of wireless Access Points (APs) with Internet connection and
providing wireless networking access ,
10 a plurality of Personal Mobile Access Device (PMAD) with wireless
networking capability for getting wireless Internet access via said AP,
and client operation function means corresponding with said TDMN
operation function;
a time distributed message process function means for package source
15 data into multiple time distributed message units (TDMU) to
communicate over Internet
Whereby the APs communicating with the TDMN via Internet,
Wherein said PMAD is personal mobile communication device with user
and media interfaces, and wireless networking means to
20 communicate with said APs,
Wherein the TDMN operation function means enables the PMADs to
join the TDMN for communication over Internet connection;
wherein said TDMU is a base communication message unit of a
communication protocol means constructed on top of TCP/IP protocol
25 and Internet,
Whereby the PMAD accesses Internet wirelessly through the AP and join
the TDMN for communication among each other of the PMADs over
Internet,

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Whereby the TDMN and the APs providing communication among the PMADs over Internet connection

Whereby the TDMN enables, controls, and guarantees the PMAD to PMAD communication over Internet without message loss, and

5 Whereby PMAD doing message communication via Internet and TDMN with TDMU means.

37(new), The system of claim 36 wherein said PMAD comprising:

means to convert data resource to be transferred in to TDMU,

means to convert the received TDMU into original data format, and

10 means to control the communication with TDMN and other PMAD of claim 36.

38(new), The system of claim 36 wherein said TDMU is a base

communication message unit of a communication protocol means

constructed on top of TCP/IP protocol and Internet to overcome

15 information communication loss and/or low quality due to unstable Internet connection:

wherein a original message is packaged into a group of TDMUs be sent over Internet,

wherein a complete original message is able to be recovered as long

20 as its complete belonging group of TDMUs is complete received, and

wherein TDMU set (a group of TDMUs) communication can be interrupted and resumed.

39(new) The system of claim 36 whereby said PMADs package source

25 data of voice, video, other file and message into a group of TDMUs

send across Internet via the TDMN for delivering to receiving PMAD,

and, said TDMN guarantees said a group of TDMUs to be completely received at receiving PMAD:

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whereby said TDMN stores the undelivered TDMUs when there is interruption of Internet connection of receiving PMAD, and whereby said TDMN continues to deliver said undelivered TDMUs when the interrupted communication of said receiving PMAD to said TDMN recovers.

whereby the transmitting and receiving of said message units is controlled by the operation means of TDMN with time-distributed feature of store and change the speed of communication to overcome the Internet connection unstable and interruption during the communication of sending and receiving PMADs

40(new) The system of claim 36 wherein said TDMN manages the communication of said PMADs with different quality of service level.

41(new) The system of claim 36 wherein said TDMN has server means forming three level hierarchical domain system for managing communication, comprising:

a host domain, a control domain and a access domain, wherein access domain is the bottom level of said hierarchical domain system, said access domain comprising a plurality of Access Server means and one Control Server means managing said Access Server means,

wherein control domain is the second level of said hierarchical domain system, said control domain comprising a plurality of said Control Server means and one Node Server means managing said Control Server means, and

wherein host domain is the core of said TDMN comprising a plurality of said Node Server means and one Host Server means managing said Node Server means.

42 (new). The system of claim 36, wherein a plurality of said PMADs can perform group communication.

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43(new) The system of claim 36 wherein one of said PMAD can roam among the wireless access of said APs around Internet and communicate with said server means and other PMADs.

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